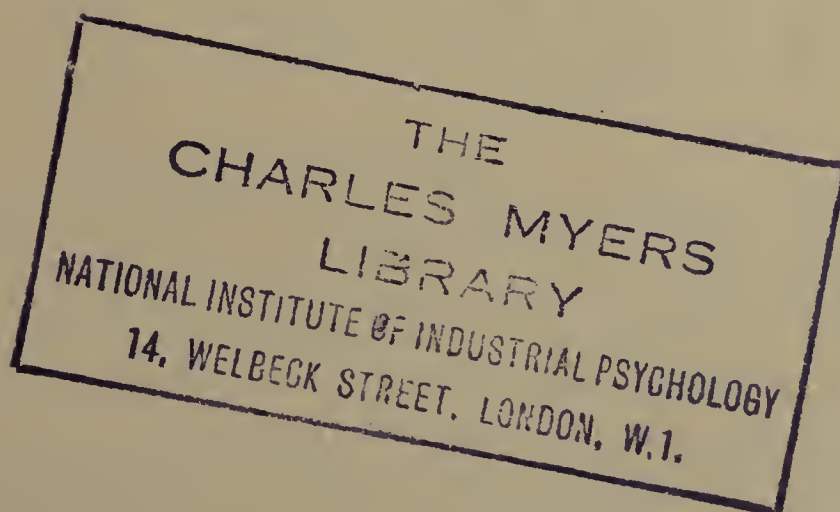


A Study of Sarawak Music.

By

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During a visit to the Baram district of Sarawak, Borneo, I obtained several phonographic records of native songs, thirteen of which I have analysed and present in the following paper. Three of the songs (Nos. V, VII, X) were obtained from the Kenyahs, two (Nos. IV, XI) from the Kayans, two (Nos. II, VI) from the Kadayans, one (No. XIII) from the Ibans (Sea-Dayaks). The Kadayans belong to the Klemantan group of Bornean peoples; to this group also belong the Bakongs (Song I), the Long Kiputs (Song XII), the Sebops (VIII, IX), and the Lepu Annas (Song III). A full description of these peoples will be found in Hose and McDougall's *The Pagan Tribes of Borneo* (Macmillan & Co. 1912.)

Musical Instruments.

The musical instruments which the inhabitants of the Sarawak district use are:—

(1) The *keluri*, consisting usually of six pipes inserted into a gourd, and used especially for dance music, but also for song accompaniments and for making love. The *keluri* which I examined gave approximately the descending scale notes, \dot{C} B^b G F E C . The lowest note of the *keluri* is commonly used as a drone (cf. page 302).

(2) a two-stringed guitar, the body shaped like a shovel; also used, I believe, to accompany the dance.

(3) a bamboo harp, used especially by the Kadayans and Milanaus;

(4) a nose flute; both (3) and (4) are used, unaccompanied by song, in love-making.

(5) Gongs and drums, used for purposes of ceremonial and intercommunication, and also combined as an orchestra¹).

Occasions of the Songs.

None of the songs which I heard in Sarawak were accompanied by musical instruments. Two (Nos. VII and XIII) were sung by women, the others by men. Some were war songs; some were love songs; others again were used for healing the sick, or for describing past or passing events, or present wishes or individuals. In Song IX, for example, the Sebops are asking the help of the white man against the Lepu Paya, a hostile people. In Song X, the *dayang* (or medicine man) describes the return of the sick soul after, wandering from its body, it has reached the hill which overlooks the river of death called Malo. Here, it is said, if the soul looks back and sees all his goods coming after him, he realises for the first time that he is dead. The *dayang* is sending his soul to bring the sick soul back to the body

1) Cf. my paper "A Study of Rhythm in Primitive Music" *British Journal of Psychology*, Vol. I, p. 397.

before it has travelled thus far. The dayang gazes into his parang (or sword) and describes the sun, moon and water, and the rapids and the forests,—all just like real objects in this world¹).

The following are the words of this song, which are partly Kenyah, and partly Lelak; the song being sung by a Lelak (Klemantan) who had learnt it from the Kenyahs:—

Kuben puyai ia puyan
 Poiai abun bunyai hujan / utan along
 Pela tipa jaba uyan
 Pela pa ngaba uyan kuma kelui balian
 Awai malo menjam jaman
 Mekung aran chaleing tipan / utan along
 Liem ini alem bulan
 Kuma ka tana buang / utan along
 Utan along loeng aran
 La ro kambi kino janan
 Utan along loeng aran / uyau along
 Labo laan lulau matan
 Kuma ngimen ngalong balan / utan along.

Song II is known as Aroi toyong (aroi is an exclamation, toyong = paramour). The words are:—

Aroi di, aroi di, kasih	siri li inan	di rasa menoyong wang
your gift betel-nut	my love for you	feeling to love money
dalam tangan		
in hand		

That is to say,—my desire for you is like money in the hand.

Here are the words of another song (16), a lullaby song, the music of which however I am unable to present:—

Lung koh madang manoh megingjong ujong
 The birds are flying to the fields from the mouth of the river
 Bayoh mensip anak iap lamateh telyap telyap
 The topmost branches of the bayoh tree are swaying
 Abing lamateh laki laieng bok oban.
 Look out for old grandfather Laieng with white hair.

Analysis of the Songs.

The simplest of the songs in this collection are I, II and III (all Klemantan songs). They consist essentially of the cadence \dot{C} B^b G ;—i.e. of a descent through a fourth with the interposition of a note which is a whole tone below the opening note, and upon which the main accent of the cadence falls²).

1) I am grateful to Dr. Charles Hose for help in this section of my paper. Indeed to his hospitality and to his influence over the natives during the long period of his magistracy in Sarawak, I am indebted for having been able to take the phonographic records on which this paper is based. I wish also to express my thanks to Mr. A. H. Fox Strangways for many valuable suggestions during the preparation of this paper.

2) For the sake of comparison the notes of the songs here analysed are all expressed as starting from \dot{C} , whatever the pitch, in which they were originally sung. The notes of the octave below \dot{C} are written B A C ... C; those of the

This cadence occurs in nearly all of the songs in this collection. It hence provides the characteristic feature in Sarawak music.

In all three of the above-mentioned songs (I, II and III) the note \dot{D} also occurs, but it is relatively unimportant, being a kind of grace note to the initial note \dot{C} or to the central note B^b .

Thus of the four notes $\dot{D} \dot{C} B^b G$,— \dot{D} is the least important; \dot{C} , as I shall later show, is important as the initial note; G is of course conspicuous as the final note; while B^b is prominent because of its accent. The prominence of the B^b is well-marked in Song III, the close of which consists of a play on the two notes B^b, G (cf. also songs IV, VII, IX, XII).

In Song IV we have either the same cadence $\dot{C} B^b G$, or sometimes merely $B^b G$. The note \dot{C} in this song becomes very prominent. The song starts with a prolonged \dot{C} , and the same prolonged note introduces the cadence $\dot{C} B^b G$ at the end of the song. This cadence (A) alternates with another cadence (B), consisting of the tones $F G B^b G$. In structure the song has the form AABBBBBBA. The B cadence at first increases and then diminishes in length, and the grace-notes in the last B and last A reach considerable complexity; a distinct sense of climax being shown on the penultimate breve.

One might be disposed to regard the final note G of the cadence $\dot{C} B^b G$ as the tonic in the foregoing songs. But there appears to be no definite tonic in any of them, nor in Song V, of which I shall speak later. Although the final note is felt to be a satisfactory resting point, yet it has not that peculiar stability, that function as centre of gravity, which characterizes the tonic. Indeed there seems no reason why the song should end on G rather than on B^b ; it is only the constant repetition of the cadence that leads us to expect the actual termination.

In Songs VII, VIII, IX, X, XI, XII, however, where a chorus is introduced, a tonic is very clearly marked. The choruses in all these songs consist of a monotonous drone, generally repeating the last word or words of the verse (e.g. the chorus word in XII is *mulai* = return). The pitch of the chorus is nearly always an octave below the most important initial note. The chorus note is in some songs prolonged over several notes of the solo. In others it is of brief duration and recurs frequently. In most songs the chorus note varies in duration, being sometimes long, at other times short. In some songs (VIII), or in certain parts of songs (VII, IX), the chorus intervenes when the solo singer is silent. The chorus makes an interval most commonly of an octave or a fifth with the simultaneous solo note; occasionally the interval of a major third, still more rarely that of a minor seventh, is formed between chorus and soloist.

The effect of the introduction of the chorus in giving a definite tonic to the song, thus consolidating the melodic system, is well seen in Songs X, XI, XII. In all three songs, we meet with our now familiar cadence $\dot{C} B^b G$ (or sometimes merely $\dot{C} G$). The chorus on the lower C converts the initial note of the cadence into the keynote. At the same time it forms a

octave below C are written $B A C \dots$; those of the octave from \dot{C} upwards are written $\dot{D} \dot{E} \dot{F} \dots$. The approximate absolute pitch of the first note is indicated at the start of the song.

prolonged fifth with the lowest note, G, of the cadence, and thus in the solo a new cadence G F E C is introduced, usually with the E accented. In XI this cadence occurs only at the close of the verse, but in XII it is used first in descending, then in ascending (C E F G) order, and finally once again in descending order. Thus the descending scale on which these three songs are based is \dot{C} B \flat G F E C. In X B \flat is missing, the fourth C G being sung without an intermediate note. In XI, the note A occurs, but with a quite unimportant function. In this song, it is perhaps noteworthy that one of the solo phrases ends, and the next two phrases begin, on B \flat , a minor seventh above the C of the chorus drone which follows or precedes these phrases. A similar appearance of the minor seventh occurs in XII, which opens with the chorus drone, a prolonged C, and is followed by the melody beginning on B \flat . We have already mentioned (page 6) that the chorus occasionally makes an interval of a minor seventh with the soloist (e.g. in IX and XI).

In VII, the tune starts with a prolonged B \flat , and descends, again by a minor seventh, to C by the same cadence, G F E C, as that with which we have met in X, XI, XII. The sequences E F E C, C E F E C, are also introduced; and in each case where it enters, the note E receives an accent. Thus this song, like the three previous ones, is based on the descending pentatonic scale of \dot{C} B \flat G F E C.

So far then the Sarawak songs appear to have been derived from a descending fourth \dot{C} B \flat G (I, II, III, IV), to which, on the appearance of the underlying chorus drone, the cadence of the fifth G F E C becomes added¹).

In VI, we have the same cadence G F E C, on which is based the latter half (B) of each verse throughout the song. The first half (A) of the verses consists either of (I) A G F E D E F or of (II) A B \flat C D C D E F. The song is written in the form A¹ B¹ A² B¹ A² B² A¹ B³, in which A² is an inversion of A¹, B² a shortening and B³ a lengthening of B¹.

We now come to a song which is fundamentally different, alike in expression and in structure, from those previously dealt with. VIII is a war song. It starts as usual on what is to be the tonic note, and this is accentuated by the monotonous chorus at the close of each verse, on the lower octave. But it ascends and descends a major third, \dot{C} \dot{D} \dot{E} (\dot{D}) \dot{C} , instead of straightway descending as in nearly all the previous songs. This ascent and descent are twice repeated, and then a descent of two successive fourths, \dot{D} - \dot{C} -A, \dot{C} -G, (the former exemplifying the familiar cadence \dot{C} B \flat G,) brings the solo verse to a close, whereupon the chorus enters on C. This song is built upon the notes of the well-known (ascending) pentatonic scale C D E G A, in which the fourth and the seventh from the keynote are missing. It will be noticed that the rhythm of the song is very pronounced; the first and last bars of the solo being in triple ($\frac{3}{4}$) time, separated by three bars of dual ($\frac{2}{4}$) time, and followed by the four crotchets of the chorus.

1) If we choose to regard the G in the songs without chorus as fulfilling the same function as the C in the songs with chorus, the former group of songs may be generally considered to be built on a minor, the latter on a major scale.

The same tune, (sung, curiously enough, in the same absolute pitch) occurs in a modified form in V, but with altered accent and rhythm and without the chorus. In place of the chorus the tune ends by a descent from \dot{C} through the familiar cadence $\dot{C} B^b G$, G forming the final note of the song. It is as if the sequence of ascending major third, and descending fourth of VIII ($\dot{C} \dot{D} \dot{E} \dot{C} \dot{D} \dot{C} A$) were here blended with the cadence $\dot{C} B^b G$; it is as if the descent $\dot{C} B^b G$ here replaces the successive descents in VIII through $\dot{C}-G-C$. The great loss of tonality which thus occurs through the absence of the chorus note is very striking. The song at once approaches in character the group of Songs I, II, III, IV.

It is interesting to note that in Song V the descending cadence $\dot{C} B^b G$ is not always combined with the entire phrase $\dot{C} \dot{D} \dot{E} \dot{C} | \dot{D} \dot{C} A | A G$, which is used in the opening verse. We meet next with the combination $\dot{C} \dot{D} \dot{E} \dot{C} | \dot{C} B^b G$, then with the combination $A G | \dot{C} B^b G$, and lastly with the combination $\dot{C} \dot{D} \dot{E} \dot{C} | A G | \dot{C} B^b G$. As in Songs I, II, etc. (cf. page 298) the note \dot{D} is added to the cadence $\dot{C} B^b G$ in close relation to the note B^b ; and a repetition of this form, $\dot{C} \dot{D} B^b \dot{C} B^b G$, occurs in the last of the verses of the song here printed.

There remain for consideration two songs, Nos. IX and XIII. Of these the latter is the only Iban (Sea-Dayak) song in the collection. In this song, as in other respects, the Ibans show themselves to be of different culture from the other Sarawak people we have mentioned¹). The song is of a far more primitive type, descending at first through a regular series of tones from a prolonged high note to a fifth below. The rest of the song is made up of a play upon the latter interval $\dot{F} \dot{E} \dot{D}$, the two upper notes being dropped as if the singer had at last found himself "at home" in a simple phrase of merely three notes. There is, of course, no well-defined tonality; yet if \dot{D} , which appears as its natural resting note, be considered as the tonic, and if in this sense we consider the final note of the familiar cadence $\dot{C} B^b G$ also as a tonic, we have in each case the descent through a minor third to the tonic. But such a comparison is of little or no value. We have never met elsewhere in the Sarawak songs with the cadence $\dot{C} B^b G$ in the form $(\dot{C}) B^b A G$ as it occurs in this song. Moreover we have seen that, at all events with the introduction of the chorus, the upper fourth \dot{C} (or lower fifth C) comes to be of such importance as to oust G from whatever tendency it may have had to function as tonic. Finally, in none of the songs we have considered does the note E^b (a minor third above the tonic C) ever occur.

In the remaining song IX, however, we have not merely a chorus drone, which gives a clear tonic to the song, but also apparently (as in Song XIII) the use of the minor third above this resting note. Each verse of the song ends with the cadence $G E^b C$, preceded by the cadence $\dot{C} G$ or $\dot{C} B^b G$. The interval E^b-C , however, appears to be more nearly a neutral than a minor third; owing to the weakness of the note E , I have not found it

1) The Ibans represent a much later migration than the other peoples of Sarawak. They are of Malay affinity.

possible to determine its pitch precisely. The earlier part of each verse is made up of a play on the sequence \dot{C} G B^b , with the occasional insertion of an unimportant \dot{D} . Thus the greater part of the song is composed of the notes \dot{C} G B^b , followed by the familiar cadence \dot{C} B^b G ; but the effect of introducing the chorus on C is to displace the resting note from G to C , between which notes the soloist introduces the (?) E^b .

Thus, looking back over our analysis, we have the following table of notes for each of the songs:—

I.		(\dot{D})	\dot{C}	B^b	G								
II.		(\dot{D})	\dot{C}	B^b	G								
III.		(\dot{D})	\dot{C}	B^b	G								
IV.			\dot{C}	B^b	G	(F)							
V.	\dot{E}	\dot{D}	\dot{C}	B^b	A	G							
VI.					A	G	F	E	(D)	C	(B^b)	A	
VII.			\dot{C}	B^b		G	F	E		C			
X.			\dot{C}			G	F	E		C			
XI.			\dot{C}	B^b	(A)	G	F	E		C			
XII.			\dot{C}	B^b	(A)	G	F	E		C			
IX.		(\dot{D})	\dot{C}	B^b		G		$E^?b$		C			
VIII.	\dot{E}	\dot{D}	\dot{C}		A	G				C			

The following table gives the mean values of these intervals in cents (hundredths of our tempered semitone) for the various songs. When no figures are given, either the notes did not occur or their pitch was not determinable with sufficient accuracy.

	$\dot{C}-B^b$	B^b-C	$\dot{C}-G$	$A-G$	$G-F$	$F-E$	$G-E$	$\dot{E}-\dot{D}$	$\dot{D}-\dot{C}$	$\dot{E}-\dot{C}$ $E-C$
I.	210	312	[522] ¹⁾						188	
II.	193	325	[518]						174	
III.	182	346	[528]							
IV.	210	288	[498]							
V.				179				191	171	362
VI.					212	115	[327]			382
VII.					154	175(!)	329			433
VIII.								185	179	364
X.					202	111	[313]			408
XI.				195	178	104	[282]			
Average.	198	318	516	187	186	126	316	188	178	390
Median.	202	318	520	187	190	113	320	188	177	382

From this it would appear that whole tones, major thirds, are smaller, while semitones, minor thirds, and fourths are, on the average, larger than either our tempered or the just intervals.

1) The bracketed figures refer to calculated intervals not actually used in the song.

Keluri tunes.

Owing to the kindness of Professor Harrison Smith, of the Massachusetts Institute of Technology, Boston, U.S.A.,—who has presented me with two pathéphone records of keluri tunes (and several other song records), and has permitted me to publish the results of my analysis of his records,—I am able to present for comparison with the Sarawak songs two examples of Sarawak instrumental music. These pathéphone records were prepared in Paris from the phonograms obtained by Professor Harrison Smith in Sarawak.

Both of the keluri tunes are Kenyah dance tunes. They are punctuated by occasional shouts from the dancers, who dance singly, clad in their war coats and hats, brandishing their shields and spears or parangs (swords).

Unfortunately it is impossible to arrive at the absolute pitch in which these two keluri tunes were played. I have therefore assumed that the drone of the first tune and the lower of the two accompanying tones of the second tune had each the pitch of C. On this assumption the notes involved in the keluri tune I are \dot{C} B G F E C, while those occurring in the keluri tune II are \dot{C} A \flat G F C. If we assume that the two instruments responsible for these tunes were similarly attuned, the instrumental scale becomes \dot{C} B A \flat G F E C. The pitches of these tones on the gramophone records work out respectively at 256, 244, 202, 191, 169, 160, 128 vibrations per second,—which (with the exception of the second or third tones) are in close agreement with those, calculated according to just intonation, of 256, 240, 205, 192, 171, 160, 128 vibrations per second. But all the keluris which I saw in this district of Sarawak consisted of six, not of seven, pipes, and I have a note taken "in the field" that the tones emitted from those pipes, in the case of the one instrument which I examined by ear, were approximately \dot{C} B \flat G F E C. Now it seems to me quite possible that the tone B may have been produced by partial uncovering of the hole of the uppermost pipe \dot{C} . Moreover, there can be no doubt whatever that the A \flat in keluri tune II is frequently somewhat sharpened. It may have been similarly produced by partially uncovering a pipe A. We may perhaps conclude that the true instrumental scale of the keluri varies in different instruments from \dot{C} \bar{A} G F E C to \dot{C} B \flat G F E C,—which agrees with the scales we have deduced from songs VI, VII, X, XI, XII.

It will be noted that, as in the songs, the accompanying notes of the keluri form intervals of an octave, fifth and (?) major third with the notes of the tune. Of the two keluri tunes, I bears a general likeness to the songs, there being a prolonged drone an octave below the opening note, which descends a fourth by the cadence \dot{C} B G, and thence through the tones F and E to the lower C. The other keluri tune, II, is remarkable for the presence of two accompanying notes of different pitch, for the curious syncopated time of the lower of these two notes, and for the triple time (cf. Songs VIII and IX) of the melody. It too employs the descent of the fourth from \dot{C} to G but the intermediate note A \flat here plays a much more important part; it is the starting note of the melody and ascends to \dot{C} , and hence perhaps the latter interval naturally tends to be exaggerated.

Conclusions.

If we attempt to summarise this analysis of the Sarawak songs, we may make the following statements:—

(1) The simplest songs are based on the descending tetrachord $\dot{\text{C}}\text{--}\text{B}^b\text{--}\text{G}$, with or without $\dot{\text{D}}$ (Songs I, II, III, IV), yielding the cadence $\dot{\text{D}}\ \dot{\text{C}}\ \text{B}^b\ \text{G}$, in which what tonality there is depends mainly on the relation between the important end-notes, $\dot{\text{C}}$ and G .

(2) With the introduction of the drone of the chorus on C, the tune is no longer restricted to this tetrachord. The descending fifth G F E C appears (Songs VII, X, XI, XII), yielding Scale I = \dot{C} B \flat G F E C, with a clear tonic \dot{C} . Less frequently the notes A and D occur, whereby the scale becomes the Mixolydian \dot{C} B \flat A G F E D C.

(3) One song consists of the pentatonic scale $\Pi = \dot{C} \ A \ G \ E \ D \ C$ (Song VIII).

(4) This scale, in another song, blends with scale I to form the composite hexatonic Scale \dot{C} B \flat A G E D C (Song V).

(5) Thus of the twelve Sarawak songs (omitting the Iban song, XIII) nine contain the descending cadence \dot{C} B^b G . Three songs contain merely the note \dot{D} in addition to these notes. In five songs the cadence F E C is added below, thereby completing a pentatonic scale which in ascent generally lacks the second and sixth. One song is built on a quite different pentatonic scale which omits the fourth and seventh. There is, however, no sure indication of the relation between these two scales. The descending intervals in the two scales are successively:—

Scale I. Whole tone, minor third, / whole tone, semitone, major third.

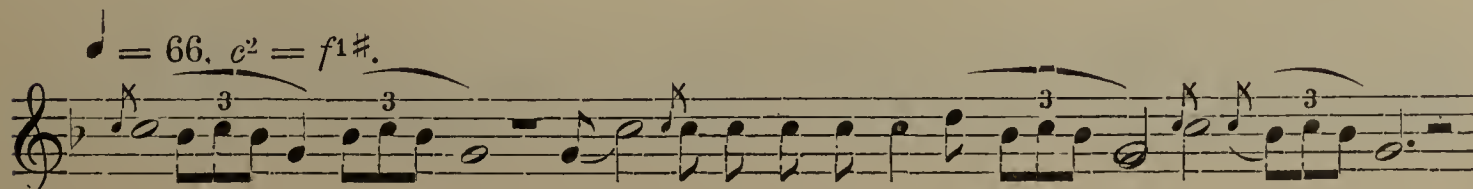
Scale II. Minor third, whole tone, / minor third, whole tone, whole tone.

In each the octave is divided into two halves $\dot{C}-G-C$. But whereas we have been able to trace in this paper the formation of the first scale through the additon of a lower C to the cadence $\dot{C} B^b G$, we have been unable to adduce any evidence as to the origin of the latter scale. It is conceivable that it may have been derived from the same descending cadence (\dot{D}) $\dot{C} B^b G$ and that the resting note G has somehow been onsted by the accented note B^b (cf. page 298) instead of by the lower C, as tonic, so that (in the scale of C) the cadence now runs (\dot{E}) \dot{D} \dot{C} A (the cadence \dot{D} \dot{C} A actually occurs in Songs V and VIII); whereupon the resting note, as usual a fourth below the important C, is added, followed by the chorus, which is, as usual, an octave below the tonic or a fifth below the new resting note. We thus have the descending series of notes \dot{E} \dot{D} \dot{C} A G C, of which Song VIII is actually composed.

(6) The *keluri* (instrumental) tunes appear to make use of Scale I, C B \flat (or A) G F E C.

Sarawak Songs.

I (3) Bakong Song





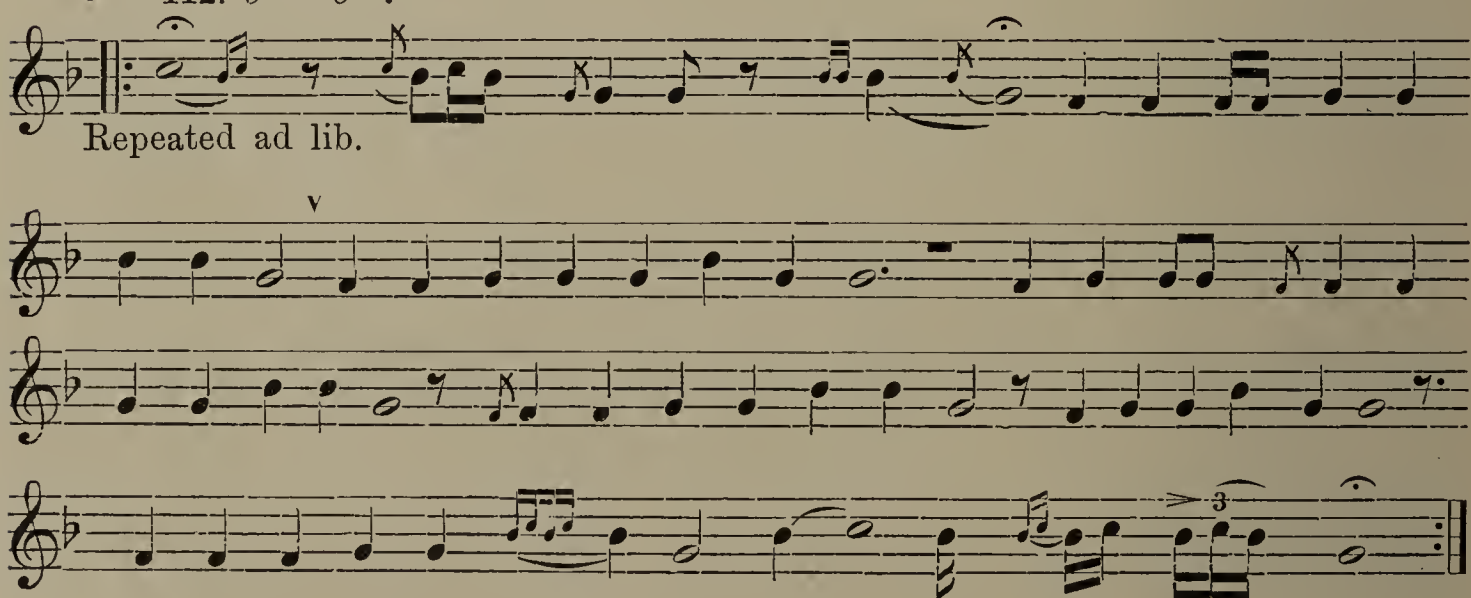
II (10) Baram Kadayan Love Song.

♩ = 92. $c^2 = g^1$.

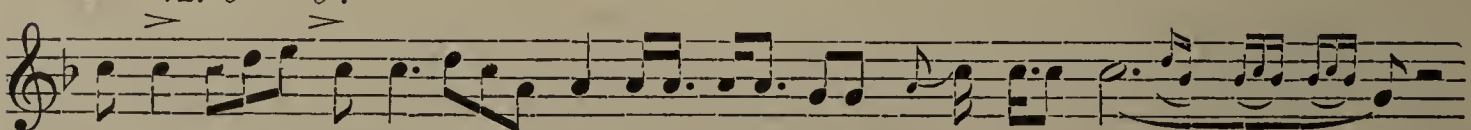
III (22) Lepu Anan Song.

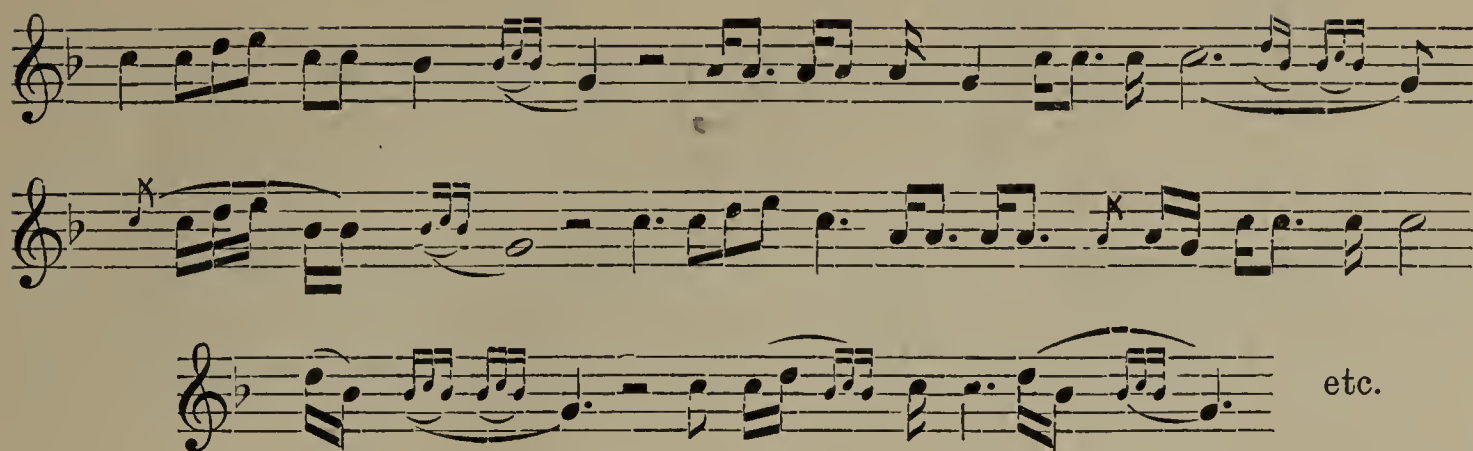
♩ = 100. $c^2 = g^{1\#}$.

IV (21) Kayan Song.

♩ = 112. $c^2 = c^{2\#}$.

V (17) Batang-Kayan River Kenyah Song.

♩ = 72. $c^2 = c^2$.



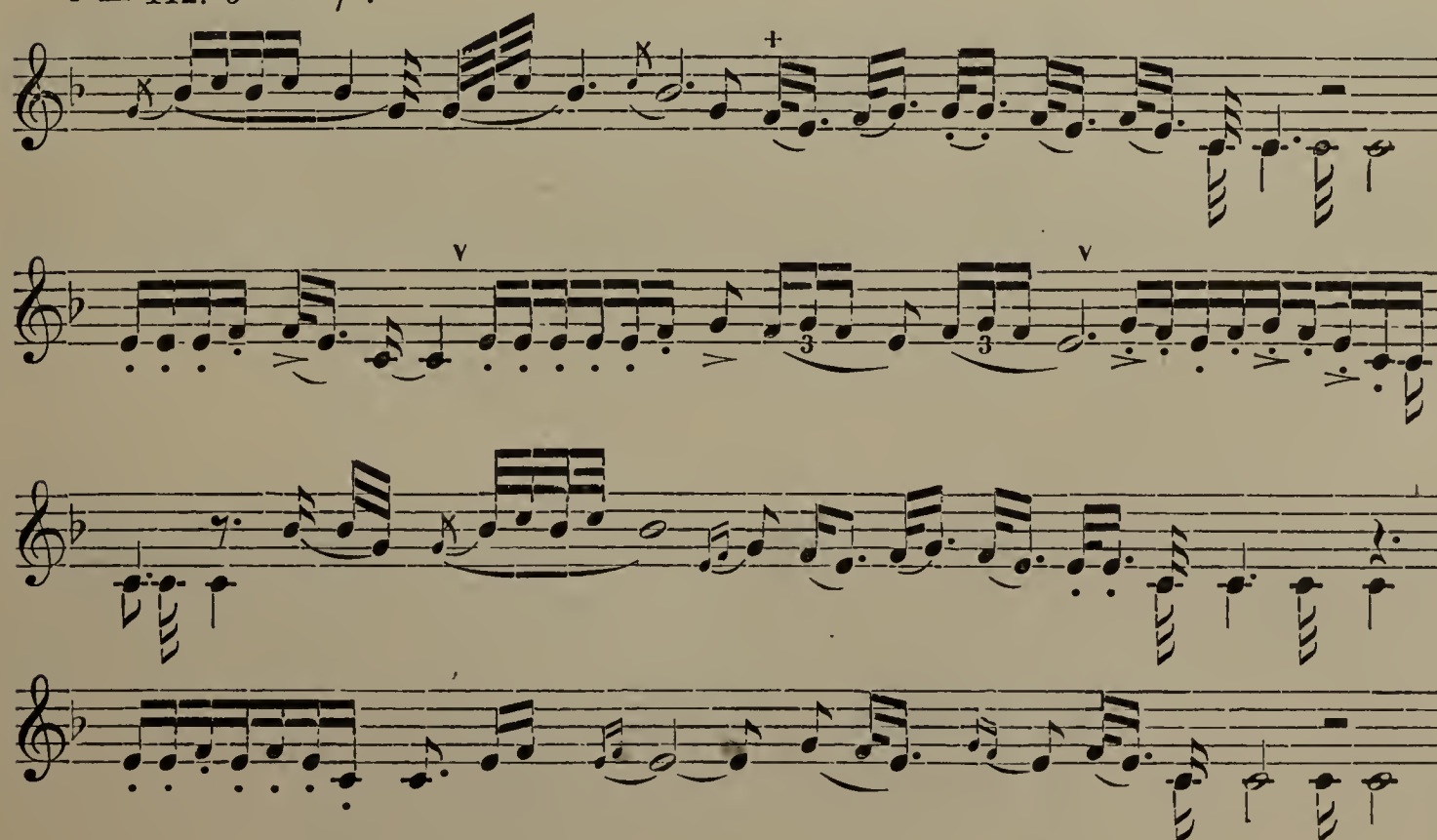
VI (9) Baram Kadayan (? Boating) Song.

$\bullet = 96. a^2 = c^2\sharp.$



VII (12) Kenyah Woman Dayang's Song.

$\bullet = 112. b^0b = f^1.$





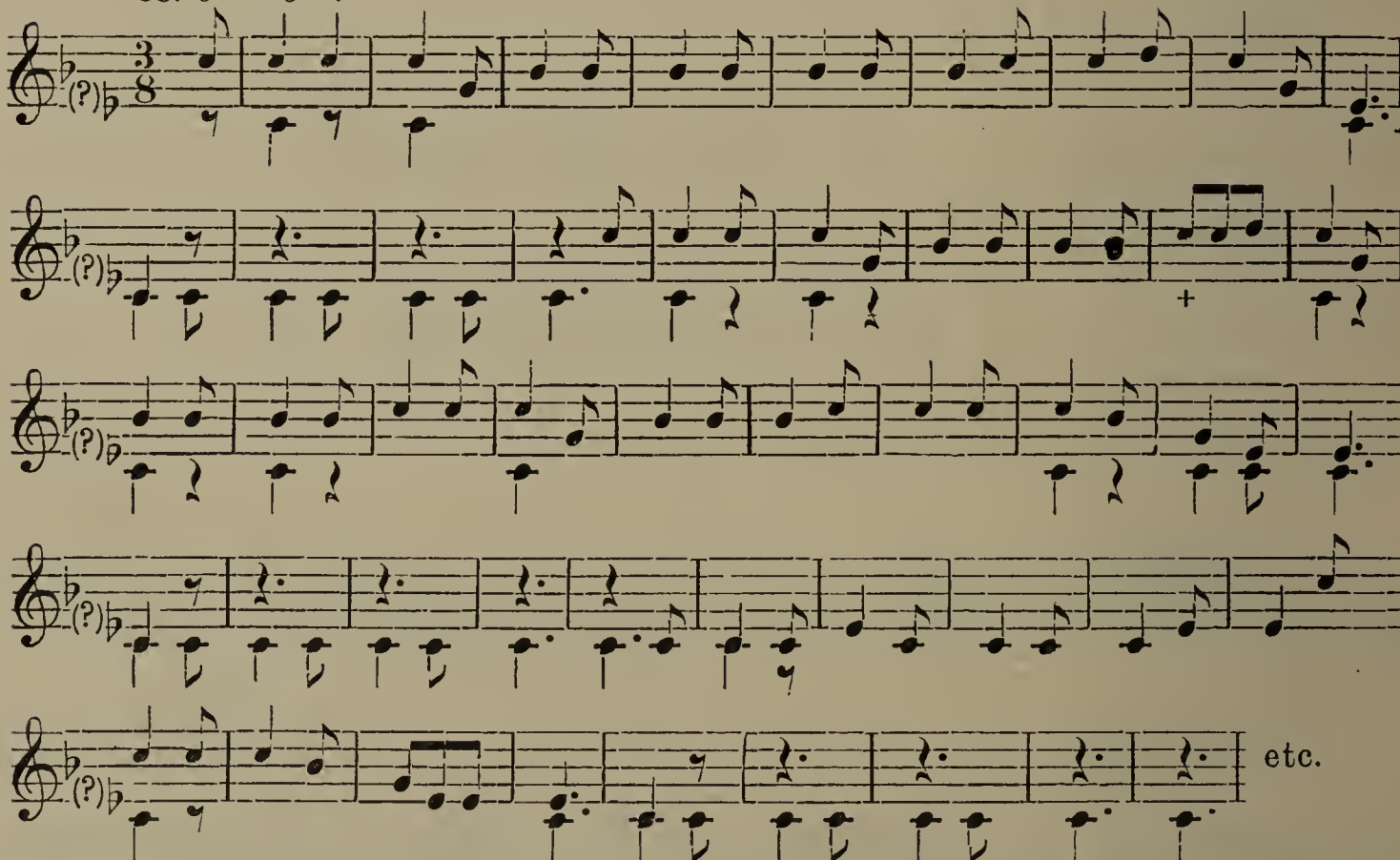
VIII (14) Sebop War Song.

$$\bullet = c^2 = c^2.$$



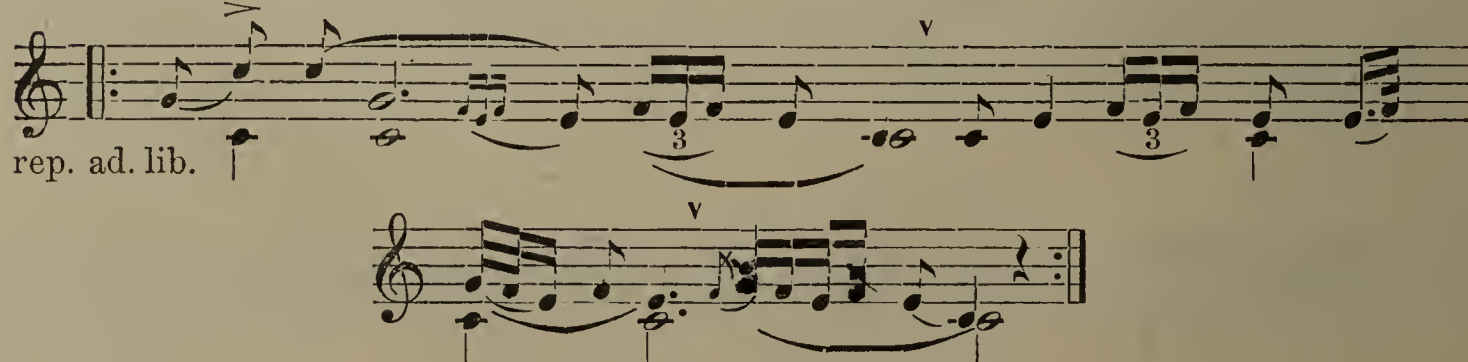
IX (13) Sebop Song.

$$\bullet = 88. c^2 = b^1 b.$$



X (15) Kenyah Song.

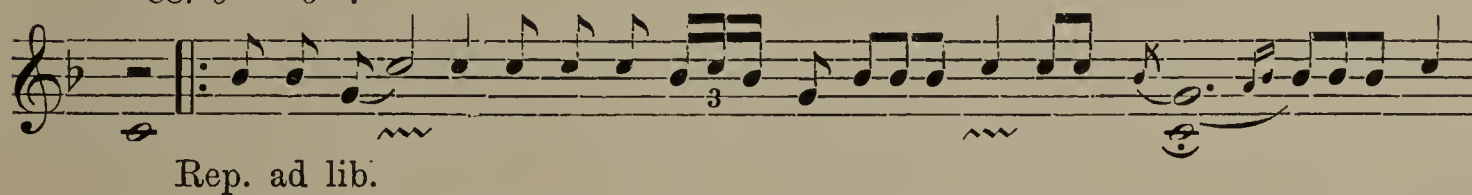
$$\bullet = 104. g^1 = d^1.$$



XI (19) Kayan Dayang's Song.

 $\text{♩} = 66. g^1 = f^{\sharp 1}.$ 

XII (24) Long Kiput Song of Farewell.

 $\text{♩} = 88. c^1 = o^{\sharp 1}.$ 

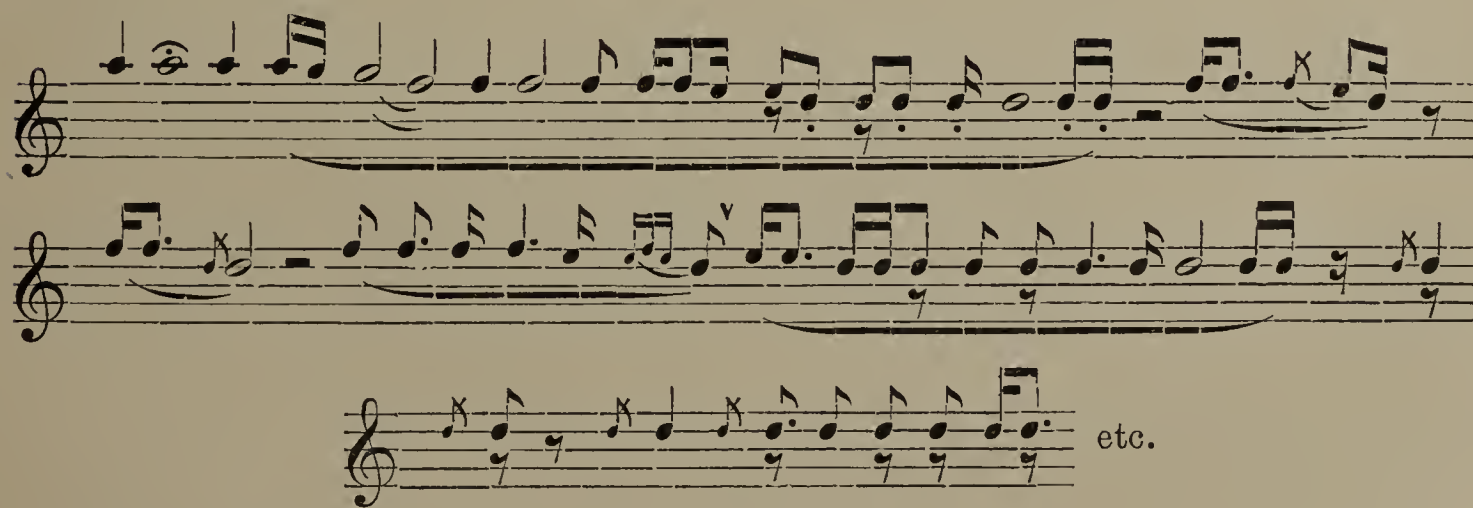
Rep. ad lib.



Chorus and Solo.



XIII (6) Iban Balandai Song.

 $\text{♩} = 66. a^2 = a^2.$ 

etc.

Keluri Tunes.

Kenyah Dance Tunes.



etc.

II (15) A B A



occasional variants for B.

B₁ B₂

